

LAKE PARRAMATTA DAM

Report

on the Ceremony for the Unveiling

on Sunday 9 November 1997

of the

Plaque Declaring the Dam a

National Engineering Landmark

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Prepared by:
M.N. Clarke
November 1997

Contents

	Page
Introduction	1
Plaquing Preliminaries	1
The Ceremony:	1
Attendance	2
Presentation to Mrs Ash	2
Unveiling of Plaques	2
Refreshments	2
Photographic and Video Record	2
Thanks	2
Future Publications and the Internet Home Page	2
Distribution of Ceremony Reports	2
Attachments:	
Letter 8 May 1997, seeking Council's agreement to the plaquing proposal	'A'
Letter 19 May 1997 advising Council's agreement in principle to the plaquing	'B'
Memo. 22 August 1997 advising approval of Commemorative Plaquing Sub Committee to plaquing as a National Engineering Landmark	'C'
Letter 5 September 1997 advising of recognition of the dam as a National Engineering Landmark and requesting Council's acceptance	'D'
Invitation to plaquing ceremony	'E'
Acceptances to plaquing ceremony	'F'
Ceremony pamphlet	'G'
Photographs of ceremony	'H'
Letter of thanks to Councillor Haines	'I'
Letter of thanks to Mr Joe Abercrombie	'J'
Summary page for Volume 2 of <i>The Historic Engineering Plaques of Australia</i>	'K'
Press report Sydney Morning Herald 10 November 1997	'L'

Report on Ceremony for the Declaration of the

LAKE PARRAMATTA DAM

as a

NATIONAL ENGINEERING LANDMARK

Introduction

Lake Parramatta Dam is a circular arch masonry dam, which was completed in 1856 and raised by 3.3 metres in 1892. It has associations with four of the most significant public works operatives of the time - Captain Percy Simpson, E. O. Moriarty, William Randle and C. W. Darley.

It's plaquing was proposed by the late Richard (Dick) R. Ash, formerly Principal Engineer Water Supply in the Public Works Department NSW.

The dam is owned by Parramatta City Council and on 8 May 1997, an approach was made to the then Lord Mayor Councillor John C. Books, seeking Council's agreement in principle to the plaquing proposal (Attachment 'A'). Following his agreement of 19 May 1997 (Attachment 'B') the nomination report was prepared by Mr Ken Wyatt, Chairman of the Engineering Heritage Committee, Sydney with assistance from Mr Paul Heinrichs of the Department of Land and Water Conservation and Mr Michael Clarke of the Engineering Heritage Committee.

The nomination was approved by the Commemorative Plaquing Sub Committee in August 1997 (Attachment 'C'). A copy of the advice to the Lord Mayor is at Attachment 'D'.

Plaquing Preliminaries

Following discussions with the Lord Mayor and having regard to potential clashes with other celebrations within the City at about the same time, Sunday 9 November 1997 was chosen for the plaquing ceremony.

Contact was made with the President of The Institution Mr Barry Gear to ascertain his availability to officiate at the plaquing ceremony. As he had a prior engagement in Perth, the Deputy President Mr Joe Abercrombie agreed to deputise.

Draft speech notes were prepared for Mr Abercrombie and Mr Bill Jordan, Chairman of the National Committee on Engineering Heritage (NCEH), who was to speak on the Australian Historic Engineering Plaquing Program.

Organisation of the ceremony was undertaken by Mr Syd Thomas of Parramatta City Council, from whom excellent co-operation was obtained. Mr Thomas was provided with drafts for the invitations and the program, historical notes for inclusion in the ceremony pamphlet, and The Institution's invitation list.

Visits were made to Council to assist with selection of historic photographs for a display being prepared by its library and to negotiate the location of the plaque.

The invitations (Attachment 'E') were issued by Council in the joint names of the President of The Institution and the Lord Mayor. A copy of the acceptances for the ceremony are at Attachment 'F'.

The Ceremony

The ceremony was held at Lake Parramatta Reserve in a marquee erected on the hill above the kiosk. Next to the marquee, Council mounted a small display of historic photographs and of the master plan prepared for upgrading the Reserve.

A copy of the pamphlet issued to guests and which included the ceremony program and a history of the dam is at Attachment 'G'.

Attendance

About 60 guests attended including the local Federal Member, Sydney Division President Mr Mike Goethel, Mrs Betty Ash widow of the late Dick Ash and her daughter Sally, several Councillors and a number of Members of Sydney Division Committee.

Presentation to Mrs Ash

At the conclusion of his speech, the Chairman of NCEH presented Mrs Ash with a bouquet of Australian native flowers in recognition of Dick Ash's efforts to have the heritage significance of Lake Parramatta Dam officially recognised.

Unveiling of Plaques

The plaques were temporarily mounted on an easel and were unveiled by Deputy President of The Institution Mr Joe Abercrombie and the Lord Mayor Councillor John Haines.

The final location of the plaques will be on a sandstone block in the lawn below the kiosk, facing the upstream face of the dam.

Refreshments

At the conclusion of the ceremony an excellent selection of 'finger food' refreshments and drinks were served.

Photographic and Video Record

Photographs of the ceremony are at Attachment 'H'.

The opportunity was taken to film the ceremony and to tell the Dam's story as a means of describing and publicising, not only the Plaquing Program, but the part played by engineers in the development of our Nation.

Filming also provided useful footage for The Institution's proposed "Year 2001 Gift to the Nation" and for possible inclusion in the final mixed media package.

The footage includes interviews with the Chairman of NCEH and the Deputy President of The Institution.

Press Report

A report which appeared in the Sydney Morning Herald on 10 November 1997 is at Attachment 'L'.

Thanks

Letters of thanks and congratulations on an excellent ceremony were sent to Councillor Haines and Mr Joe Abercrombie. Copies are at Attachments 'I' and 'J'.

Future Publications and the Internet Home Page

In accordance with resolutions of the National Committee on Engineering Heritage, a draft summary page is provided at Attachment 'K', for inclusion in the proposed Volume 2 of *The Historic Engineering Plaques of Australia* and for publication in the Committee's World Wide Web Home Page.

Whilst the summary page is immediately available for publication on the Internet, prior to its publication in Vol. 2 of *The Historic Engineering Plaques of Australia*, photographs and short biographies will need to be included.

Distribution of Ceremony Reports

Copies of this Ceremony Report will be distributed as follows:

The Institution of Engineers' National Office Library	2
The Institution of Engineers' National Office file	1
Parramatta City Council	1
Sydney Division Engineering Heritage Committee	1

Councillor John Books,
Lord Mayor,
Parramatta City Council,
PO Box 32 PARRAMATTA 2124

May 8, 1997.

Dear Councillor Books,

Re: Parramatta Dam.

The Australian Historic Engineering Plaquing Programme is an initiative of the Institution of Engineers Australia which aims to bring public attention to significant engineering works and the engineers who created them. The program has been in operation since 1984 and over twenty works in NSW have now been recognised in this way, including the Harbour Bridge, the Lithgow Zig-zag Railway, the Snowy Mountains Scheme and so forth.

The nomination of a particular site for an award requires the preparation of a research study which seeks to demonstrate the significance, and hence the worthiness, of the site. This report then goes before a national assessment committee, which tests the nomination against quite rigorous standards; if the committee believes that the site satisfies the standards, arrangements are put in hand for a ceremony to be held at which a bronze plaque is mounted at a publicly accessible part of the site.

The Sydney Division of the Institution is interested in preparing a nomination for the awarding of a plaque to the Parramatta Dam, which is a structure of great technical importance. Before we commence the very considerable task of preparing the research documentation, it is usual to seek and obtain the approval of the owner of the site, and it is for this purpose that I am now writing to you.

In giving approval for the installation of a plaque, an owner would possibly wish to consider the following matters among others:

- ♦ Public access to the site must be possible. This may involve full hands-on access, or access to parts only, or access to a viewing area which would be prepared and managed by the owner.
- ♦ The preparers of the nomination report will require access to the site and will also need access to documents, photographs etc which may help in demonstrating the significance of the site.

- ♦ The awarding of a plaque is a very public identification of the excellence of the work, but it does not cause the work to be regarded as a "heritage item" for the purposes of any State or Federal Act of Parliament.
- ♦ The owner usually hosts a small ceremony to unveil the plaque, and the unveiling is done jointly by representatives of the owner and the Institution. The ceremony is often a significant occasion for the owner, and may be timed to occur in conjunction with some other event or activity.
- ♦ The Institution will cover the costs of the casting of bronze plaques, approximately 300 x 400 mm.; usually the owner arranges the installation in a suitable location.

I must stress that, at this stage, we are merely interested in researching the site and in deciding whether to nominate it; the final decision will rest with the national assessment committee.

Your approval in principle is now requested for this plaquing proposal to proceed.

If you need any further information, or wish to discuss this letter further, you can reach me by fax or phone on (02) 9418 4242, or write to me at my home address at PO Box 342, Killara, NSW 2071.

I thank you for your attention.

Yours sincerely,

Ken Wyatt
Chair, Engineering Heritage Committee



LORD MAYOR'S OFFICE

JCB:HH

File No G/1070

19 May 1997

Mr Ken Wyatt
Chairman
Engineering Heritage Committee
The Institution of Engineers Australia
Sydney Division
PO Box 138
MILSONS POINT NSW 2061

Dear Mr Wyatt

I have received your very interesting correspondence regarding the Australian Historic Engineering Plaquing Programme and the desire to prepare a nomination of a plaque to the Parramatta Dam.

This project has my full support and I would advise that:

- Public access is available to the dam abutments
- Access can be made available to the nomination party together with historic documentation
- It would be possible to host a small ceremony to unveil the plaque

Therefore, I am pleased to give my approval in principle and would request that the wording on the plaque be made available to Parramatta City Council for its consideration.

Yours faithfully

A handwritten signature in black ink, appearing to read "John Books", written in a cursive style.

Councillor John C Books
LORD MAYOR

COUNCILLOR JOHN BOOKS, LORD MAYOR

Facsimile

Attachment 'C'



**The
Institution
of Engineers,
Australia**

NATIONAL OFFICE

Total no. pages
(including this one)

1

Date: 22 August 1997

To: Ken Wyatt

Copy To:

Fax number: (02) 9418 4242

From: Penny Sutherland

Subject: Lake Parramatta Dam

File No: 3/6/107

Dear Ken

I am please to advise you that your nomination of Lake Parramatta Dam for a National Engineering Landmark award has been approved.

I will proceed with the ordering of the plaques. Please advise where the plaques are to be delivered to.

Many thanks

Penny Sutherland



**The
Institution
of Engineers,
Australia**

SYDNEY DIVISION

Councillor John Books,
Lord Mayor,
Parramatta City Council,
PO Box 32,
PARRAMATTA 2124
September 5, 1997.

Dear Councillor Books,

*Re: Lake Parramatta Dam
Your File G/1070*

I write to confirm that, as discussed with you at our meeting yesterday, the Institution of Engineers, Australia has examined the historical significance of Lake Parramatta Dam, and has decided that it is a structure of national, and possibly international, importance. The Institution therefore wishes to recognise this important heritage structure by declaring the Dam to be a National Engineering Landmark.

The features of the Dam which cause it to have such a high level of engineering significance are set out fully in the Nomination Report, which I have forwarded to you. Of the thirteen features identified, the following are possibly of greatest interest:

- * The dam is believed to be the eleventh earliest single arch dam constructed in the world since antiquity.
- * The dam is the first large dam built in Australia.
- * It is believed to be the only masonry arch dam in Australia and is of very slender construction when compared with structures of similar age in the world.
- * It is believed to be the only masonry dam in the world to combine the use of Roman and Portland cements in the one structure.
- * Its design and construction involved three of the most significant public works operatives of the time: Captain Percy Simpson, E.O. Moriarty and W Randle.
- * It was part of one of the earliest urban water projects in Australia, and remained in that service for sixty years.

I should point out that National Engineering Landmark status is not awarded lightly by the Institution, and is reserved for items of the very highest heritage significance. Fewer than fifteen items in the entire nation have been so recognised to date. In NSW, only a handful of items have been recognised as NELs, including the Great Zig Zag near Lithgow, Pyrmont Bridge, the Snowy Mountains Scheme, the Parkes Radio Telescope and Sydney Harbour Bridge.

It is therefore my privilege to ask you, on behalf of the citizens of the City of Parramatta, to accept the awarding of a National Engineering Landmark plaque for the Lake Parramatta Dam.

~

At our meeting yesterday, I believe we reached agreement on the following matters:

- ♦ A ceremony to unveil the plaques will be held at Lake Parramatta Reserve between 6.00 and 8.00pm on Sunday 9th November, as part of the City's Foundation Week.
- ♦ The unveiling will be performed jointly by the Lord Mayor and the National President of the Institution of Engineers, Australia, (or their representatives) and the guest-list will include citizens of Parramatta, representatives from the Institution and other dignitaries
- ♦ The Institution will arrange and finance the manufacture of two plaques, illustrated and worded as shown in the documentation left with you at our meeting.
- ♦ Shortly after the ceremony, the plaques will be affixed to a granite block in a suitably prominent location near the water's edge, from which the wall of the dam is visible. Other plaques or interpretative signs may be situated at this location or adjacent to the viewing area near the western end of the dam wall.
- ♦ Council will design and issue invitations and programs; the Institution will assist by providing notes on the construction and significance of the dam, together with illustrations and a bromide of our logo.
- ♦ The senior personnel to be involved in co-ordinating the ceremony will be Mr Ken Bone, Group Manager Operations, and Mr Michael Clarke, Past-Chairman of the Engineering Heritage Committee. (Mr Clarke's phone number is 9487.6414).

Could Mr Bone please inform Mr Clarke of Council's formal acceptance of this award.

Finally, may I express my personal satisfaction that the Institution has recognised the value of the Dam, and congratulate you and your citizens on the care you have taken of this extremely important structure for nearly a century and a half.

Yours sincerely,



Ken Wyatt,
Chair, Engineering Heritage Committee



Mr Barry Gear AM
President
The Institution of Engineers,
Australia

Cir J.E. Haines OAM
Lord Mayor
Parramatta City Council

are pleased to invite

Mr. M. Clarke & Partner

to a ceremony for the declaration of

Lake Parramatta Dam

as a

National Engineering Landmark

**6pm, Sunday
November 9, 1987**

at

***Lake Parramatta Reserve
(Access off Bourke & Lackey Streets
North Parramatta)***

RSVP : October 31, 1987

Cora or June

Phone: 9806 5203 or 9806 5200

Fax 9806 5916

Acceptances of Invitation to Lake Parramatta Dam Plaquing Ceremony

THE INSTITUTION OF ENGINEERS, AUST
Joe and Joan Abercrombie (National Deputy
President)

National Committee on Engineering Heritage
Bill & Judy Jordan (Chairman)

Sydney Division Committee
Michael & Margaret Goethel (President)
Alex Baitch
Doug Jones
Elizabeth, Phillip, Katie, Patrick & Erin Taylor
Kamal Laha
Dr Charles Gerrard (Director)

Engineering Heritage Committee
Ken & Margaret Wyatt (Chairman)
Michael and Annie Clarke
Frank & Rosemary Brady
Don & Wendy Cottee
Ian & Andrew Bowie
Stoyan & Mrs Rogleff
Jon & Kay Breen
Neil & Mrs Hogg

Young Engineers Sydney
Kevin Cheung
10 others

Others
Mrs Betty Ash and Sally Ash
Bob Jackson & Ilsa Dittes (*Engineers Australia*)
Paul & Madelaine Heinrichs (Dep't Land & Water
Conservation)

David Logan
Gillian Russell (Heritage Office)
Frank Heimans (Video Producer)
Sound & Camera Man

PARRAMATTA CITY COUNCIL
Clr John Haines & Mrs Haines (Lord Mayor)
Clr John Books
Clr P. J. Russo & Mrs Russo
Clr M. Bolgoff
Clr A. A. Hyman & Mrs Hyman
Clr C. Worthington
Mr Ken Bone (Group Manager Operations)
G. Wehrmann (Display)
D. Vasquez (Display)
Syd Thomas (Organiser)
Sam Tatsis (Barman)

Member for Parramatta
Mr Ross Cameron MP



Cement mortar and are still in excellent condition. Portland Cement was used in other parts of the works ("Natural" Roman Cement came from volcanic deposits. Unlike lime it was not dissolved in water. Manufactured Roman Cement was produced from limestones with a substantial clay content. Portland Cement is manufactured from separately occurring deposits of clay and limestone).

By 1892 more water was needed and the height of the wall was raised by 3.3 m using Portland Cement. This increased the height to about 14.5 m, the crest length to 97 m and the storage to 590 MI; the crest width became 1.55 m.

"For its time Parramatta Dam is a remarkable structure, very slender relative to its predecessors, homogeneous by virtue of its close mortared joints, and is apparently the first dam to incorporate Portland and manufactured Roman Cement in its construction" (Ash and Heinrichs).

Heritage Significance

Lake Parramatta Dam is a heritage engineering structure of national and possibly international significance.

- ▶ It is listed by the Australian National Committee on Large Dams as the first large dam built in Australia.
- ▶ It is believed to be:
 - the only masonry arch dam in Australia;
 - the eleventh single arch dam constructed in the world;

- the only masonry arch dam in the world in which the use of Roman and Portland Cements is combined in the one structure.

- ▶ It is of very slender construction when compared with structures of similar age.
- ▶ It was one of the earliest urban water supply projects in Australia.

- ▶ Its design, construction and raising involved four of the most significant public works operatives of the time: Captain Percy Simpson, E.O. Moriarty, William Randle and C.W. Darley.

- ▶ The design is thought to have been a precursor to the use of the 'cylinder' formula used by Darley in this later program of arch dam construction.

- ▶ Its raising in height by C.W. Darley in 1898, was part of one of the earliest arch dam construction programs in the world and attracted international attention.

- ▶ The fact the dam remains in excellent condition and is able to withstand Probable Maximum Flood conditions, testifies to the quality of its design and construction.

- ▶ The dam demonstrates how technology can be adapted to provide an amenity valued by the community for its beauty, tranquillity and bird life.

The Australian Historic Engineering Plaquing Program

The Institution of Engineers, Australia reserves the highest award of National Engineering Landmark, for works that have contributed significantly to the development of Australia and to the practice of engineering. They represent milestones by which progress can be measured, or benchmarks by which comparisons are made.

Ceremony for the Commemoration Plaquing of

Lake Parramatta Dam

as a

National Engineering Landmark



Sunday November 9, 1997

*The Institution of Engineers,
Australia* *and*

*The Council of the
City of Parramatta*

LAKE PARRAMATTA DAM

Programme

Commencing 6.00pm

Master of Ceremonies

Mr Ken Bone, Group Manager - Operations, Parramatta City Council

Welcome

Councillor John Haines OAM, Lord Mayor, City of Parramatta

The Australian Historic Engineering Plaquing Program

Mr Bill Jordan, Chairman, National Committee on Engineering Heritage

History and Heritage Significance of Lake Parramatta Dam

Mr Joe Abercrombie FIEAust CPEng
Deputy President, The Institution of Engineers, Australia

Unveiling of National Engineering Landmark Plaque

Councillor John Haines, Lord Mayor City of Parramatta
Mr Joe Abercrombie, Deputy President, The Institution of Engineers, Australia

Close of Official Ceremony

Light Refreshments

Introduction

Lake Parramatta Dam was completed in 1856 to supply water to the growing town of Parramatta. It is notable for a number of reasons among which are that it is one of the earliest arch dams ever built.

It is probable the dam was designed by Captain Percy Simpson, although E.O. Moriarty also had a hand in the design and was responsible for site supervision. The contractor was William Randle and the dam was extended in height by C.W. Darley in 1898. All four of these men played important roles in construction and civil engineering in the young colony of New South Wales.

The dam supplied high quality water to Parramatta until 1916 and is now the centrepiece of a recreation park. Modern analysis and regular inspection show the structure is still capable of safely coping with the Probable Maximum Flood.

History

Dams had been built at Parramatta in 1818 and 1831, but as the population increased the water supply became inadequate. In consequence Governor Fitzroy appointed a Committee of Water Supply Commissioners (comprised of selected Parramatta citizens) to carry out the construction of a new dam and water supply system. The Committee approved a plan for a circular arch dam in 1851, but the work lapsed. A new Committee called fresh tenders to plans prepared by Captain Percy Simpson in 1853.

Simpson was to be in charge of the works and a contract was let to Mr W. Randle, who was then completing construction of the Sydney to Parramatta railway - the first line in New South Wales. Later records show that Mr E.O. Moriarty (a civil engineer in private practice) was the supervisor and also participated in the design.

The work commenced following laying of the foundation stone on 7 June 1855, and Moriarty was in charge for most of the contract. According to a contemporary report, a timber frame was erected "over the entire site of the dam at a height of thirty feet; along this a travelling-jenny travels, and the operations of raising the blocks and lowering them in their destination are performed with the utmost precision."

The dam was completed in 1856 at a cost of £17,000.

By the 1890's the dam could not meet demand and supply had to be supplemented by the Sydney Metropolitan Water Board. In 1898, C.W. Darley, Engineer-in-Chief of the Public Works Department, prepared a report proposing the dam be raised by 1.8m. In fact the height was increased by 3.3 m that same year by the addition of Portland Cement concrete. In the process, the spillway was changed from the original bypass spillway to an overshot crest structure incorporating a syphon spillway for low flows.

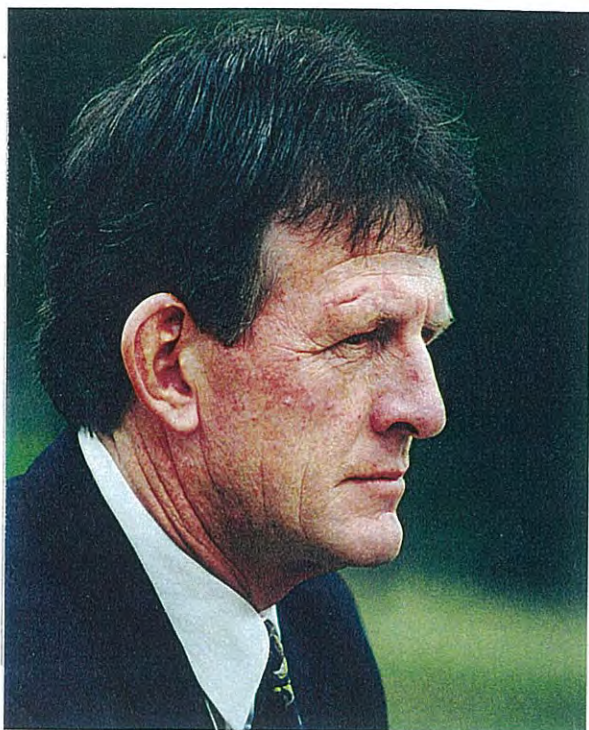
The dam ceased to be used for water supply purposes in 1916.

Description

The original dam was 11 m high, had a crest length of 80 m, was 4.5 m thick at the base and 2.4 m thick at the crest. It was of single arch construction, with a radius to the upstream face of 74.55 m. It stored 280 MI (megalitres) of water and its catchment was 7.6 square kilometres.

The dam was of sandstone ashlar masonry (squared blocks of stone), in 15 courses above a concrete apron on the downstream side, and extends about 3.6 m into the sandstone abutments of the valley. Recent tests have shown that the joints subject to the action of water were all formed in Roman

Lake Parramatta Dam
Plaquing Ceremony 9 November 1997



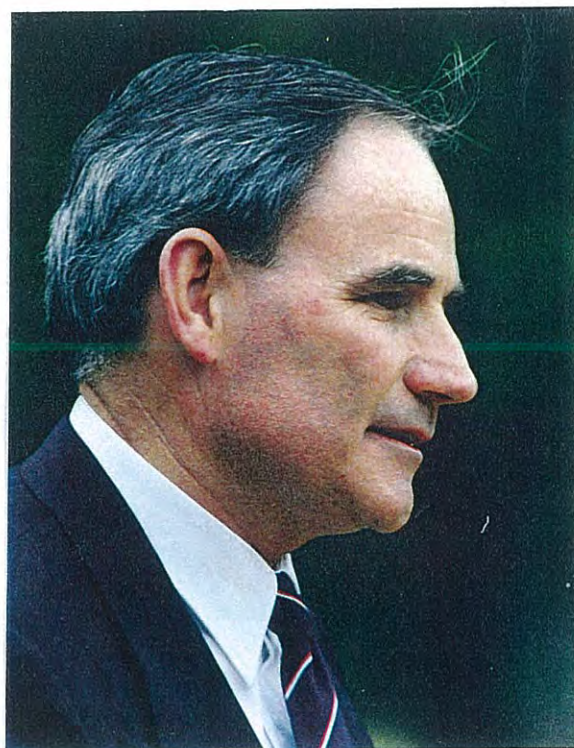
Mr Ken Bone
Master of Ceremonies



Councillor John Haines
Lord mayor, City of Parramatta



Mr Bill Jordan
Chair, National Committee
on Engineering Heritage



Mr Joe Abercrombie
Deputy President
The Institution of Engineers, Australia



Joe Abercrombie



Joan Abercrombie and Betty Ash



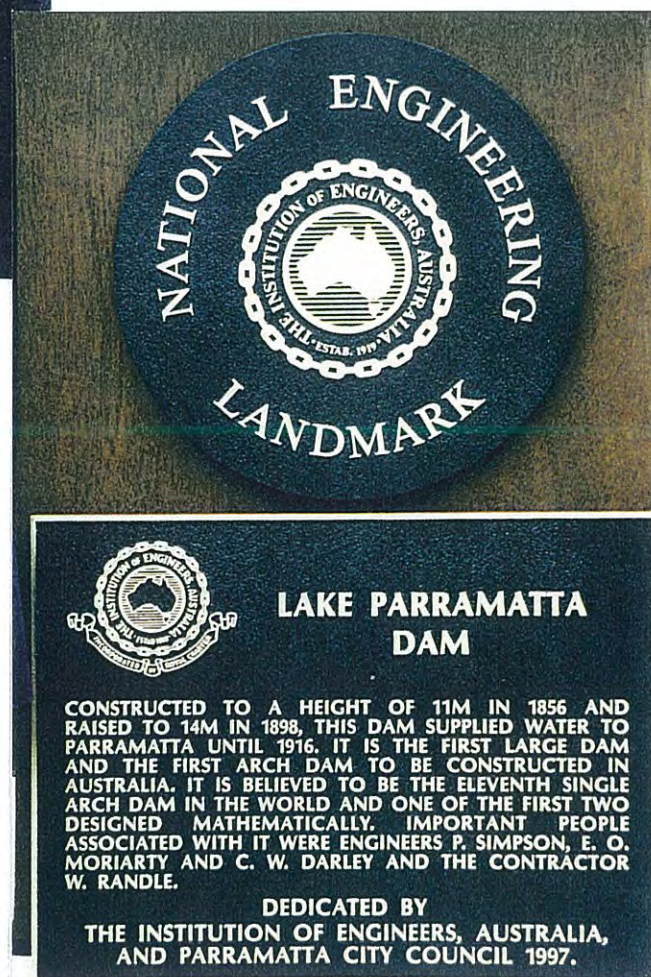
Joe and Joan Abercrombie

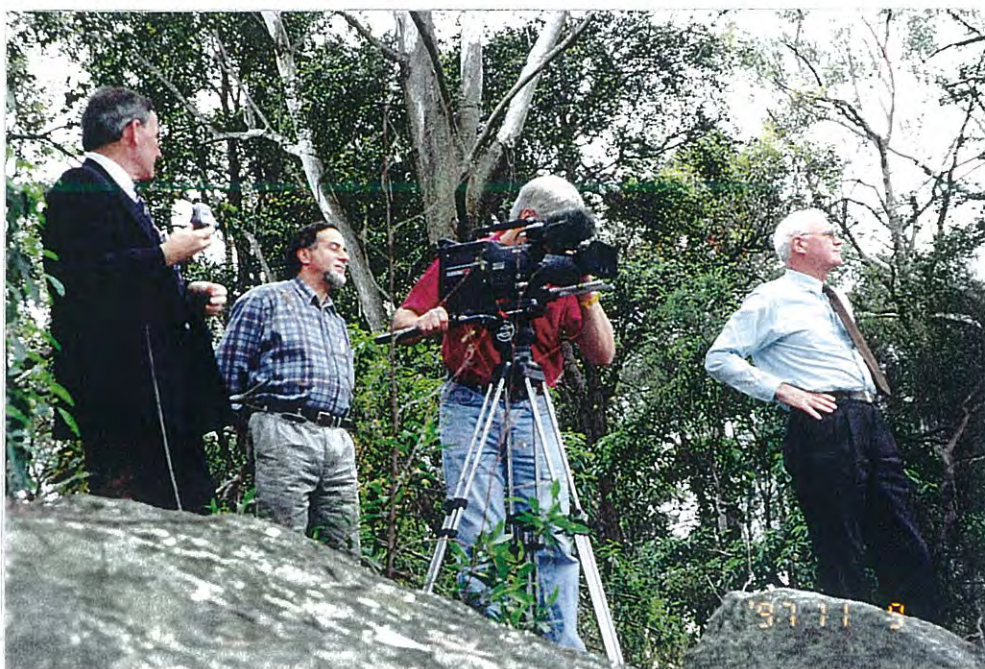
Betty and Sally Ash



Joe Abercrombie

John Haines





Joe Abercrombie Frank Heimans (Producer) Michael Clarke

Councillor John Haines OAM,
Lord Mayor,
Parramatta City Council,
PO Box 32,
PARRAMATTA 2124
November 20, 1997.

Dear Councillor Haines,

*Re: Lake Parramatta Dam
Your File G/1070*

On behalf of my Committee, I write to express our satisfaction at the ceremony held earlier this month to mark Lake Parramatta Dam as a National Engineering Landmark. I believe that the ceremony went off very well and that the catering and general arrangements were a credit to your Council's staff. I thank you for the attention that you paid to making this event so successful.

As I mentioned in my letter of September 5 to Councillor John Books, we regard the awarding of a N.E.L. to a piece of work as a very significant event - only a handful of them have ever been awarded in NSW - and it was good to see the occasion treated with the ceremony that is appropriate. We were also pleased to see that a larger-than-normal contingent of our Engineering colleagues were able to accept your invitation to attend.

I trust that the installation of the plaques in their final location near the Lake is proceeding to your satisfaction. Please let me know if we can be of any assistance to you in the future.

Yours sincerely,

Ken Wyatt,
Chair, Engineering Heritage Committee

Michael N. Clarke

25 November 1997

Dear Joe

Thanks so much for your letter following the Lake Parramatta Dam plaquing. We were very pleased to meet you and Joan and glad you had the opportunity to see how Heritage Committees are promoting the contribution of engineers to the building of Australia. The Institution does not take enough advantage of this potential.

The Institution depends a lot on the work of volunteers and unless it finds a way to not only acknowledge but continually support their efforts, their enthusiasm and loyalty will be diminished. The Institution's strategic plan should address this point, as there is enormous potential in the power of its members, if only it can be harnessed and nurtured. Your presence at Parramatta and of so many members of Sydney Division Committee was very welcome in this regard.

We believe that along with the Environment Committees, the Heritage Committees are the "human face" of The Institution, showing the public we do have a social conscience and that we are contributing to the conservation of both our natural and built environment. By being sensitive to these issues and more thoughtful in developing solutions, we can help Australia grow and prosper, whilst conserving our environment and our heritage assets.

We are at times disappointed when heritage committee members are referred to as "heritage buffs" or "enthusiasts" i.e. they are put in the same category as hobbyists, like bird watchers. This denies the considerable contribution they make to promoting a favourable image of engineers, and the obligation we all have, to conserve the evidence of our past for future generations.

Thanks again for your letter and your help in making Parramatta a successful occasion.

May I extend to you and Joan our best wishes for Christmas and for a successful Presidential year.

Please be assured of our continuing support.

Yours sincerely

*26A Campbell Avenue, Normanhurst NSW 2076. Telephone and Fax: (02) 9487 6414
clarkem@tpgi.com.au*

Lake Parramatta Dam

location Lake Parramatta Reserve off Lackey Street, North Parramatta
owner Parramatta City Council

the plaques
type **National Engineering Landmark and Information Plaques**
location On a sandstone block in the lawn below the kiosk, facing the upstream face of the dam.

The dam is of sandstone ashlar masonry and the stones were dressed to templates. The joints exposed to water were formed in Roman Cement mortar and are still in excellent condition. Portland cement was used in other parts of the works. For its time, the dam was very slender relative to its predecessors and apparently the first to incorporate Portland and manufactured Roman Cement in its construction.

plaque text

Lake Parramatta Dam

Constructed to a height of 11m in 1856 and raised to 14m in 1898, this dam supplied water to Parramatta until 1916. It is the first large dam and the first arch dam to be constructed in Australia. It is believed to be the eleventh single arch dam in the world and one of the first two designed mathematically. Important people associated with it were engineers P. Simpson, E.O. Moriarty and C.W. Darley, and the contractor W. Randle.

Dedicated by The Institution of Engineers, Australia and Parramatta City Council, 1997.

Photograph

Percy Simpson

Capt. Percy Simpson (1789-1877)

Simpson migrated to Australia in 1822. In 1828 he became Assistant Surveyor of Roads & Bridges and Superintendent of construction of part of the Great North Road. He later become Crown Land Commissioner and a magistrate.

E. O. Moriarty (1825-1896)

Moriarty migrated to Australia in 1848. He joined the Public Works Department in 1856 and became Engineer-in-Chief, Harbours & Rivers Navigation in 1858. He designed Newcastle Harbour and the Upper Nepean Water Supply Scheme.

William Randle (1826-1884)

Randle was the major contractor for the Sydney-Parramatta railway and was involved with building Wollongong and Kiama Harbours.

Photograph

Lake Parramatta dam

THE SYDNEY MORNING HERALD
MONDAY, NOVEMBER 10, 1997

'Hidden marvel' honoured after 141 years



One of the earliest photographs of Lake Parramatta Dam, which was finished in 1856 and is now regarded as a "brilliant piece of engineering".

By ALI GRIPPER

Lake Parramatta Dam has been made a National Engineering Landmark, and praised as a "brilliant piece of engineering, possibly of international significance".

The Institute of Engineers Australia announced this last night, raising the profile of one of our "hidden marvels".

The dam is in Lake Parramatta Reserve at North Parramatta, next door to The King's School.

And it has taken more than 140 years for the dam's creator, Captain Percy Simpson, to be recognised for his remarkable feat.

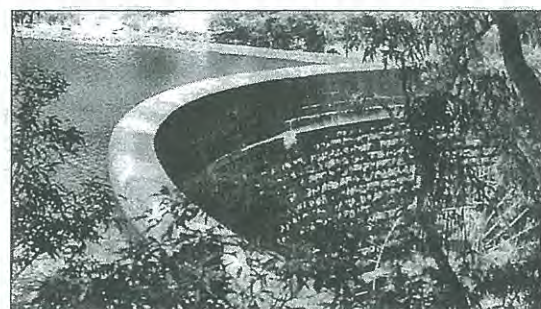
While architects such as Francis Greenway are household names for their churches, barracks and forts, the works of our first, often brilliant, engineers – the sewers, roads, bridges and dams which make up the backbone of our city – have usually been overlooked.

The Lake Parramatta Dam was finished in 1856, less than 70 years after the colony began, when the country was shrugging off its identity as a dumping ground for Britain's convicts.

The soil was poor, there were virtually no machines, there were thousands of criminals, layabouts and ne'er do wells, and few skilled craftsmen.

The dam supplied fresh water to the rapidly growing town of Parramatta – its 4,000 citizens and its jail, hospital and "Female Factory" for women prisoners.

The novel design, meticulously planned by



Captain Percy Simpson's design used walls of stone to create one of the first arch dams in the world.

Simpson, who trained in the British Army, is slender but extremely strong, and still in excellent condition.

It was one of the first arch dams in the world.

"For an engineer in a small English colony to have been so advanced in his design is remarkable," said Mr Bill Jordan, chairman of the National Committee on Engineering Heritage.

"Millions of dollars have been spent upgrading modern dams such as Warragamba. The fact that Parramatta Dam has stood the test of time proves our early engineers were as advanced as any in the world."

Other engineering landmarks which have been recognised by the Institute of Engineers include:

■ Busby's Bore, which ran from Centennial Park to the harbour, providing fresh drinking water to the settlers after they outgrew the Tank Stream.

■ Parkes Radio Telescope, built in the early 1960s and still used by NASA for its communications.

■ The Snowy Mountains Scheme, begun after World War II, which supplies electricity to much of the eastern seaboard.

"Because they are often buried and hidden away, engineering landmarks are usually not recognised," Mr Jordan said.

"They are taken for granted."

"People think engineers drive trains, but they solved major health problems of the 19th century by creating good sewerage and water supply."

"Today engineers are the ones who look after the environment by building catchment dams and landfills for land rehabilitation."

"They are responsible for all the things which give us the lifestyle we enjoy."